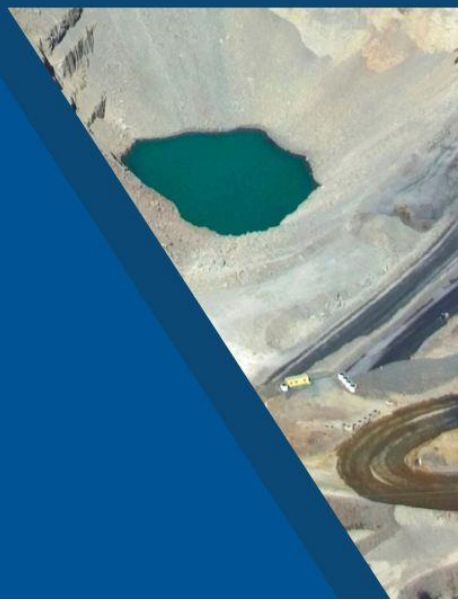
U.S.-Saudi Business Council
مجلس الأعمال السعودي الأمريكي

U.S. DELEGATION TO THE FUTURE MINERALS FORUM

Riyadh, January 10-11, 2024



Mining Products & Services

CarbonMeta

Woodinville, WA
www.carbonmetatech.com

Participants

- Lloyd Spencer, President and CEO
- Mohammed Abdulaziz Khalil, Vice President of Business Development

Company Profile

CarbonMeta Technologies is a research and development company that commercializes the processing of industrial and organic waste materials to produce hydrogen and high-value carbon products economically and sustainably. CarbonMeta Technologies is working on early-stage development of patented and proprietary microwave catalysis processes to produce hydrogen and carbon products such as graphite, graphene and carbon nanotubes. It is also working on early-stage development of a proprietary CO2 capture technology for producing cementless concrete that is carbon-negative and captures up to 10% CO2 by weight during production.

The company is doing business internationally. In Saudi Arabia, the company has received a contract to develop and commercialize a carbon-negative concrete made from industrial, construction demolition waste and mining waste, and thereby provide sustainable, eco-friendly products for strategic construction projects in Saudi Arabia. The company has registered its Saudi presence in August 2023 and plans to begin a pilot project in Q4-2023 to produce precast concrete pavers, blocks, road barriers, and street furniture that capture CO2 during the manufacturing process.

Objectives for the Delegation

- Increase company visibility in Saudi Arabia.
- Meet companies interested in processing organic waste materials to produce hydrogen and high-value carbon products economically and sustainably.
- Meet companies interested in licensing its technologies for the production of carbon-negative concrete products.
- Meet potential investors.

Impossible Metals

San Jose, CA
www.impossiblemetals.com

Participant
Oliver Gunasekara, CEO/Co-Founder

Company Profile

A graduate of the world's best startup accelerator, Y Combinator W22, and "B" Corp" rated, Impossible Metals aims to contribute to the acceleration of the transition to sustainable energy by unlocking the potential of seabed critical metals while also preserving the deep ocean ecology. Its advisors include Frank Fannon, inaugural Assistant of Secretary of State for Energy Resources, and Sir Robin Saxby, CEO and Chairman of ARM, the creator of the world's most prolific microprocessor.

The company has built an underwater autonomous robot (UAV) which leverages AI to selectively pick up battery rocks without harming the environment. Deep sea minerals are estimated to be the biggest sources of nickel, cobalt, and manganese containing over 100x more metal than known land base deposits.

Upon production ramp, the company expects to produce 204K tons of nickel, 30K tons of cobalt, 172K tons of copper, 4.6M tons of manganese, and some Rare Earth Elements (REE) per year for 20 years. It has signed over $1 billion in offtake LOI agreements. Information on the technology is available at https://www.youtube.com/watch?v=GM5xBpMa3B0

The company aims to form a subsidiary in Saudi Arabia in collaboration with a local partner to apply for a deep-sea mining permit in international waters with the International Seabed Authority, the international regulator. It intends to refine the ore (nodules) in Saudi Arabia and provide the processed metal for the battery & EV supply chain in the Kingdom. The company also aims to build 100 UAVs in the Kingdom leveraging its offshore oil and gas expertise and do maintenance and support.

Objectives for the Delegation

- Introduce its new technology for the mining of critical minerals from the seabed without destroying the marine habitat.
- Meet with Saudi public and private stakeholders to discuss partnership and sponsorship for a deep-sea mining permit.
- Investigate exploration of deep-sea minerals in the Red Sea and meet with local companies working in this field.
- Identify investment and partnerships for manufacturing of UAVs and deep sea minerals exploration.

PACCAR

Kirkland, WA
www.paccar.com

Participant

Khalid Rabah, Regional Manager

Company Profile

Established in 1907, PACCAR is a global technology leader in the design, manufacturing, and customer support of premium light, medium, and heavy-duty trucks under the Kenworth, Peterbilt, and DAF nameplates.

A Fortune 500 company, PACCAR also designs and manufactures advanced diesel engines, provides financial services, information technology, and distributes trucks parts related to its principal business.

PACCAR delivers its products and services to customers worldwide through an extensive dealer network of 2,200 locations. PACCAR Global sells the company's products in more than 100 countries and is expanding its dealer network in Asia and throughout the world. PACCAR Parts operates a network of parts distribution centers offering aftermarket support to Kenworth, Peterbilt, and DAF dealers and customers.

Objectives for the Delegation

PACCAR aims to be a part of logistics solutions in Saudi Arabia, especially in the mining and oilfield sectors.

PACCAR wishes to meet with key mine operators in the Kingdom to introduce its products, especially the benefits of its Heavy-Duty Kenworth trucks in the Mineral Transport segment.

PACCAR aims to meet with Saudi body-builders for potential collaboration to complete the custom assembly of its trucks according to the customer’s expectations.

TechnoImaging

Salt Lake City, UT
http://www.technoimaging.com

Participant
Dr. Michael Zhdanov, Chairman and CEO

Company Profile

Established in 2005, TechnoImaging, LLC. ("TI") is a leading global geophysics technology company. TI conducts geophysical surveys and provides the world's most advanced 3D imaging solutions for all airborne, land, and marine geophysical methods for mineral, hydrological, geothermal, oil & gas exploration and production. TechnoImaging's Glass Earth® technology provides cutting-edge, proprietary data acquisition, and imaging systems capable of rendering transparent the top several kilometers of the Earth's strata and reveal with precision geological structures. These advances help make highly informed decisions related to the assessment and development of the mineral spectrum, groundwater, and oil and gas reserves.

TI offers cutting-edge methods and services for geophysical data acquisition, inversion, and modeling for mineral exploration. Its technology is able to handle any size survey. All analyses/interpretations are fully three-dimensional to accurately honor the true physics of the problems. They acquire, model, and invert geophysical data from airborne and marine surveys to land and borehole surveys.

The company has international collaborations in Australia, Brazil, Italy, Japan, and Norway. Key customers include Anglo American, BAE Systems, Barrick Gold, BHP, Cameco Resources, Duke Exploration ENI, ExxonMobil, Geoscience Australia, Haliburton, JOGMEC, Natural Resources Canada, Nuvia, Petrobras, Rio Tinto, Tullow Oil, Shell, Stateoil, Sumitomo, Tech Resources, Total, and USGS. In Saudi Arabia, TI's involvements include:

- Several mineral exploration projects for Ma'aden
- Glass Earth® (Pilot) Project with King Abdulaziz City for Science and Technology to provide a roadmap for natural resources exploration in the survey area. The survey involved the acquisition, processing, and interpretation of airborne electromagnetic, gravity, and magnetic geophysical data over an initial 8,000 sq km area in Saudi Arabia. TI applied its advanced technology to identify potential mining targets which can be associated with gold and other base metal deposits such as zinc and copper.
- Collaboration with Saudi Aramco to develop new method of well-logging for oil exploration.

Objectives for the Delegation

TI's goal is to meet with leading government experts to discuss the business opportunities available in the Kingdom's mining and metals sector, and to explore the ways our company can assist Saudi Arabia in developing its mining sector under Saudi Vision 2030.

VOOVIO Technologies

Houston, TX
www.voovio.com

Participant

Ahmed Alaa, Sales Director

Company Profile

VOOVIO, a cutting-edge platform, revolutionizes operational excellence for field operators. With patented Enhanced Reality technology, VOOVIO offers Digital Replica and Standard Operating Procedure simulators. Founded by a group of experts in machine learning, industrial R&D, and automation, VOOVIO's platform captures and analyses data regarding the competence and execution of the field workforce to complement a plant's digital twins, enabling businesses to boost performance, reduce downtime and turnaround time, and solve industrial training and knowledge transfer challenges. VOOVIO holds patents for transforming simple 2-D photos of assets into 3-D interactive spaces. The technology can be customized to any factory for training purposes as long as pictures can be taken of the facility. Training is done both virtually and in-person.

VOOVIO's digital simulator is currently used in downstream petrochemicals, mining, automotive, and logistics, among others. Clients are leaders in innovation and process industries and include Dupont, BASF, Linde, Suncor, SABIC, Total Energies, Eastman, Tesla, and more. Recently making waves in the MENA market, Halliburton in Jubail has adopted the solution. VOOVIO stands out for practicality, simplicity, accessibility from any device, and minimal IT requirements. For a visual of the solution, please watch a 2min video: https://www.youtube.com/watch?v=7pgTFUunqUY

Objectives for the Delegation

VOOVIO aims to discuss business opportunities with potential customers in industrial sectors, mining, downstream petrochemicals, and others.

Metal Manufacturing-Automotive

Rampante Automotive Design Group, LLC

Dover, DE

Participants:

- Marcello Jacir, Founder, CEO, and Chief Creative Director
- Pasquale Longobardi, Chief Operations Officer
- Francesco Artusato, Chief Design Officer

Company Profile

Rampante is an innovative automotive company specialized in the restoration-modification process (resto-modding), of high-performance Ferrari® (1989 to 1995 Ferrari® 348® Tipo-F119) automobiles. Services include performance tuning, bespoke interior redesign, aerodynamic bodywork enhancements, and advanced automotive technology integration.

The company aims to open a resto-modding factory in King Abdulaziz Economic City (KAEC) for Ferrari 348, a model chosen as the basis for its process. It involves thorough disassembly and meticulous restoration from the chassis up while enhancing every aspect of the car's aesthetics, feel, and performance. Their primary goal is to create unique, high-performance vehicles that retain the essence of Ferrari's design philosophy while incorporating individual client preferences and the latest automotive innovations and components which the company aims to manufacture in Saudi Arabia as well. They also aim to market the production of the bespoke Ferrari restorations, as well as Made in Saudi parts and components globally.

Its team is comprised of seasoned automotive designers, engineers, and technicians deeply knowledgeable about Ferrari's heritage and engineering with 50+ years combined track record in designing, manufacturing, and integrating cutting-edge automotive technology, including next-generation advanced composite structures and powertrain development. They worked for OEMs such as Land Rover, Dodge, and NASCAR. For example, Mr. Massimo Conti is a former engineer at Scuderia Ferrari for Michael Schumacher, development engineer for the Ferrari Enzo, F360 Challenge Stradale, and F430, with 30+ years professional experience, 10+ years working for Ferrari SpA in Maranello. Mr. Marcello Jacir's passion and experience in the automotive industry spans nearly 4 decades as a former racing driver and currently technical director for the International GT series. As the Engineering and Principal Director of MC1 Motorsports, he has years of experience restoring, modifying, and building exotic or classic sports-cars, such as Ferrari, Porsche, Lamborghini, and Corvette.

Objectives for the Delegation

Rampante aims to introduce their initiative to open a resto-modding factory in KAEC and build relationships with potential partners and raw material providers to set up the required supply chain resources. They also aim to explore sustainable practices and materials, aligning with global efforts to reduce environmental impact. In addition, they would like to understand the local workforce environment, supply chain capabilities, and potential manufacturing options.